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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,281	12/16/2003	Gaohong Wei	VRT0112US	6590
60429 CSA LLP 4807 SPICEWOOD SPRINGS RD. BLDG. 4, SUITE 201 AUSTIN, TX 78759			EXAMINER PHAM, MICHAEL	
			ART UNIT 2167	PAPER NUMBER
			MAIL DATE 05/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/737,281

Applicant(s)

WEI ET AL.

Examiner

Michael D. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Detailed Action

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/2/07 has been entered.

Status of claims

2. Claims 1-31 are pending.
3. Claims 1, 13, 23, and 28 have been amended.
4. Prior 101 rejection has been withdrawn.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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7. Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application publication 2004/0010487 by Prahlad et. al. (hereafter Prahlad).

Claim 1:

Prahlid discloses the following claimed limitations:

“Discovering a plurality of components, wherein a database comprises the plurality of components and wherein the database is stored on a storage volume;” [0062, it states the application makes appropriate entries into the snapshot table (e.g. database) for the given client. That when a backup is being performed, the application identifies (e.g. discovers) the content (e.g. component), identifies the volumes involved (e.g. component), identifies the applications involved (e.g. component), engages all the writers involved, and performs or directs the snapshot and performs or directs the copying to the quick recovery volume. Then stating that the appropriate entries (components) are made into the snapshot table (database) for the given client and volumes involved. 0034, a primary data set (database) generally denotes a volume (component), application, or other data being actively used by of a client computer. 0034, volume generally an area of storage (e.g. storage volume)];

“Selecting a component of said plurality of components;” [0019, selects a volume.]

“Selecting a data management resource of a plurality of data management resources using an attribute of said component using an attribute of said component; and” [0037, Once the volume is selected it is removed from the pool of available volumes (plurality of data management resources). This may be accomplished, for example, by determining the capacity needed for a quick recovery volume, determining the capacity of the available volumes (e.g.

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characteristics of the available volumes, hence attributes of said components), and selecting the volume (selecting data management resource) based on capacity of identified volumes.]

“Generating a point-n-time image of said component using said data management resource.” [0066, interface for users to browse and recover data such as from snapshot images, quick recovery volumes, primary copies, back up copies, etc., as of a point-in-time]

Claim 2:

Prahlid discloses the following claimed limitations:

“Determining a structure of said database” [0042, tracking data changes in volume. That is, it must determine changes of the structure]; and

“Identifying each of said plurality of components using said structure” [0042, The quick recovery volume may then be incrementally updated in accordance with the data changes or with reference to the tracked changes in the snap shot images. There must be identification of volume in order to reference the tracked changes in the snapshot images.]

Claim 3:

Prahlid discloses the following claimed limitations:

“Selecting said component of said plurality of components to include within a point-in-time images of said database” [0037, the destination volume for the quick recovery volume may be specified to be copied to specific volumes or may be selected automatically from a pool of available volumes. 0042, quick recovery volume is created by capturing a snapshot image of the primary data set and creating the quick recovery volume from data stored on the primary volume.

0067, users may specify a point in time for browsing and restoration to occur. If the application does not find a snapshot, back copies, such as primary copies and secondary copies, and quick recovery volumes are presented or accessed for data recovery or restoration.]

Claim 4:

Prahlid discloses the following claimed limitations:

“Selecting at least one of a database directory, a table space container, and a redo log directory.” [0066, volumes in a directory. That is, selection of component (volume) is selected from a directory.]

Claim 5:

Prahlid discloses the following claimed limitations:

“Selecting said data management resource using said attribute of said component and a user-defined policy.” [0036, A sub-client generally refers to a defined set of parameters and policies that define the scope of the data set, such as the volumes or applications that are going to be copied, recovered, or otherwise managed. That is selecting a data management resource (can be an application) using attribute and user-defined policy (parameters and policies).].

Claim 6:

Prahlid discloses the following claimed limitations:

“Selecting said data management resource using at least one of a size attribute, a type attribute, a structure attribute, and a location attribute. “ [0037, media agent targeting a volume

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according to the storage space available on a particular volume in comparison to the space needed for the quick recovery volume. That is size attribute used for media agent.].

Claim 7:

Prahlid discloses the following claimed limitations:

“Defining a component size range” [0037, media agent targeting a volume according to the storage space available on a particular volume in comparison to the space needed for the quick recovery volume.]; and

“Selecting said data management resource in response to a determination that said size attribute is within said component size range” [0038-0039, media agent may interface with other agents after determination that said size of attribute is within said component size range.].

Claim 8:

Prahlid discloses the following claimed limitations:

“Selecting a point-in-time image creation process” [0067, user is able to specify point in time image. If snapshot is unavailable creation of the point in time image is created for specified point in time.]

Claim 9:

Prahlid discloses the following claimed limitations:

“wherein said point-in-time image creation process comprises at least one of: a file-level point-in-time image creation process, a directory-level point-in-time image creation process, a file system-level point-in-time image creation process, a storage device-level point-in-time image creation process, a volume-level point-in-time image creation process, and a volume group-level point-in-time image creation process” [0066, volume level point in time recovery].

Claim 10:

Prahlid discloses the following claimed limitations:

“Selecting at least one of: a snapshot creation process, a storage checkpoint creation process, and a file copy command, and a backup utility process” [Abstract, snapshot image generated]

Claim 11:

Prahlid discloses the following claimed limitations:

“Restoring said database using said point-in-time image of said component”[0067, Snapshot data found to be available as of the point-in-time the user specified is displayed to the user. Snapshot data is displayed if it exists and qualifies as valid data as of the point-in-time. If the browser application does not find a snapshot, backup copies, such as primary copies, and secondary copies, and quick recovery volumes are presented or accessed for data recovery or restoration.].

Claim 12:

Prahlid discloses the following claimed limitations:

“Said database is initially stored within a first storage region” [primary dataset is stored on primary disk, primary data volume]

“Said restoring comprises,

Restoring said database to a second storage region”[0069, restoring data can be restored and moved to a different disk by using a data mover.]

Claim 13:

Prahlid discloses the following claimed limitations:

“Means for discovering a plurality of components, wherein a database comprises the plurality of components, and wherein the database is stored on a storage volume” [0062, it states the application makes appropriate entries into the snapshot table (e.g. database) for the given client. That when a backup is being performed, the application identifies (e.g. discovers) the content (e.g. component), identifies the volumes involved (e.g. component), identifies the applications involved (e.g. component), engages all the writers involved, and performs or directs the snapshot and performs or directs the copying to the quick recovery volume. Then stating that the appropriate entries (components) are made into the snapshot table (database) for the given client and volumes involved. 0034, a primary data set (database) generally denotes a volume (component), application, or other data being actively used by of a client computer. 0034, volume generally an area of storage (e.g. storage volume)];

“Means for associating a data management resource with a component of said plurality of components; and” [0037, Once the volume is selected it is removed from the pool of available volumes (plurality of data management resources). This may be accomplished, for example, by determining the capacity needed for a quick recovery volume, determining the capacity of the available volumes (e.g. characteristics of the available volumes, hence attributes of said components), and selecting the volume (selecting data management resource) based on capacity of identified volumes.]

“Means for generating a point-in-time image of said component using said data management resource” [0066, interface for users to browse and recover data such as from

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snapshot images, quick recovery volumes, primary copies, back up copies, etc., as of a point-in-time]

Claim 14:

Prahlid discloses the following claimed limitations:

“Means for determining a structure of said database; and” [0042, tracking data changes in volume. That is, it must determine changes of the structure]

“Means for identifying each of said plurality of components using said structure.” [0042, The quick recovery volume may then be incrementally updated in accordance with the data changes or with reference to the tracked changes in the snap shot images. There must be identification of volume in order to reference the tracked changes in the snapshot images.].

Claim 15:

Prahlid discloses the following claimed limitations:

“Means for associating a point-in-time image creation process with said component of said plurality of components” [0019, select a destination volume for the quick recovery volume of the primary data set from a pool of available volumes].

Claim 16:

Prahlid discloses the following claimed limitations:

“Means for associating said data management resource with said component of said plurality of components using an attribute of said component” [0034, client computer includes a

plurality of applications and a file system or systems for which a quick recovery volume may be created. 0036, a sub-client generally refers to a defined set of parameters and policies that define the scope of the data set, such as the volumes or applications. 0045, The features and attributes of files may vary according to the particular file system in use. The database management systems may use these special file system features. That is database management resources (i.e. agents, file system features, and the like) is selected using an attribute of said component [i.e. feature and attributes for file system features and agents with parameters and policies defined.]]

Claim 17:

Prahlid discloses the following claimed limitations:

“Means for associating said data management resource with said component of said plurality of components using a user-defined policy” [0036, A sub-client generally refers to a defined set of parameters and policies that define the scope of the data set, such as the volumes or applications that are going to be copied, recovered, or otherwise managed. That is selecting a data management resource (can be an application) using attribute and user-defined policy (parameters and policies).]

Claim 18:

Prahlid discloses the following claimed limitations:

“Means for associating said data management resource with said component of said plurality of components using at least one of a size attribute, a type attribute, a structure attribute, and a location attribute” [0037, media agent targeting a volume according to the storage space

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available on a particular volume in comparison to the space needed for the quick recovery volume. That is size attribute used for media agent.]

Claim 19:

Prahlid discloses the following claimed limitations:

“Means for defining a component size range; and” [0037, media agent targeting a volume according to the storage space available on a particular volume in comparison to the space needed for the quick recovery volume.]

“Means for associating said data management resource with said component in response to a determination that said size attribute is within said component size range” [0038-0039, media agent may interface with other agents after determination that said size of attribute is within said component size range.]

Claim 20:

the apparatus of claim 14, wherein said means for generating comprises:

“Means for generating a point-in-time image of said database” [0067, user is able to specify point in time image. If snapshot is unavailable creation of the point in time image is created for specified point in time.].

Claim 21:

Prahlid discloses the following claimed limitations:

“Means for restoring said database using said point-in-time image of said component”
[0067, Snapshot data found to be available as of the point-in-time the user specified is displayed to the user. Snapshot data is displayed if it exists and qualifies as valid data as of the point-in-time. If the browser application does not find a snapshot, backup copies, such as primary copies, and secondary copies, and quick recovery volumes are presented or accessed for data recovery or restoration.]

Claim 22:

Prahlid discloses the following claimed limitations:

“Said database is initially stored within a first storage region, and” [0038, primary dataset is stored on primary disk, primary data volume]

“Said means for restoring comprises,

Means for restoring said database to a second storage region” [0069, restoring data can be restored and moved to a different disk by using a data mover.].

Claim 23:

Prahlid discloses the following claimed limitations:

“A machine-readable storage medium having a plurality of instructions executable by a machine embodied therein, wherein said plurality of instructions when executed cause said machine to:

Discovering a plurality of components, wherein a database comprises the plurality of components, and wherein the database is stored on a storage volume;” [0062, it states the application makes appropriate entries into the snapshot table (e.g. database) for the given client. That when a backup is being performed, the application identifies (e.g. discovers) the content

(e.g. component), identifies the volumes involved (e.g. component), identifies the applications involved (e.g. component), engages all the writers involved, and performs or directs the snapshot and performs or directs the copying to the quick recovery volume. Then stating that the appropriate entries (components) are made into the snapshot table (database) for the given client and volumes involved. 0034, a primary data set (database) generally denotes a volume (component), application, or other data being actively used by of a client computer. 0034, volume generally an area of storage (e.g. storage volume)]

“Select a component of said plurality of components;” [0019, selects a volume.];

“Select a data management resource of a plurality of data management resources using an attribute of said component; and” [0037, Once the volume is selected it is removed from the pool of available volumes (plurality of data management resources). This may be accomplished, for example, by determining the capacity needed for a quick recovery volume, determining the capacity of the available volumes (e.g. characteristics of available volumes, hence attributes of said components), and selecting the volume (selecting data management resource) based on capacity of identified volumes.]

“Generate a point-in-time image of said component using said data management resource.” [0066, interface for users to browse and recover data such as from snapshot images, quick recovery volumes, primary copies, back up copies, etc., as of a point-in-time].

Claim 24:

Prahlid discloses the following claimed limitations:

“Determining a structure of said database; and” [0042, tracking data changes in volume. That is, it must determine changes of the structure]

“Identifying each of said plurality of components using said structure” [0042, The quick recovery volume may then be incrementally updated in accordance with the data changes or with reference to the tracked changes in the snap shot images. There must be identification of volume in order to reference the tracked changes in the snapshot images.]

Claim 25:

Prahlid discloses the following claimed limitations:

“Selecting said component of said plurality of components to include within a point-in-time image of said database” [0037, the destination volume for the quick recovery volume may be specified to be copied to specific volumes or may be selected automatically from a pool of available volumes. 0042, quick recovery volume is created by capturing a snapshot image of the primary data set and creating the quick recovery volume from data stored on the primary volume. 0067, users may specify a point in time for browsing and restoration to occur. If the application does not find a snapshot, back copies, such as primary copies and secondary copies, and quick recovery volumes are presented or accessed for data recovery or restoration.]

Claim 26:

Prahlid discloses the following claimed limitations:

“Selecting said data management resource using said attribute of said component and a user-defined policy.” [0036, A sub-client generally refers to a defined set of parameters and

policies that define the scope of the data set, such as the volumes or applications that are going to be copied, recovered, or otherwise managed. That is selecting a data management resource (can be an application) using attribute and user-defined policy (parameters and policies).].

Claim 27:

Prahlid discloses the following claimed limitations:

“Selecting a point in time image creation process” [0067, user is able to specify point in time image. If snapshot is unavailable creation of the point in time image is created for specified point in time.].

Claim 28:

Prahlid discloses the following claimed limitations:

“A first storage element to store a database; and” [0045-0046, database management system comprising a storage unit. 0038, primary volumes and the quick recovery volumes may be stored via a variety of storage devices.]

“A point-in-time image utility configured to,

Access said first storage device;” [0039, snapshot image of the primary data set is accessed to create a quick recovery volume of the primary data set.]

“Discover a plurality of components, wherein the database comprises the plurality of components;” [0062, it states the application makes appropriate entries into the snapshot table (e.g. database) for the given client. That when a backup is being performed, the application identifies (e.g. discovers) the content (e.g. component), identifies the volumes involved (e.g.

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component), identifies the applications involved (e.g. component), engages all the writers involved, and performs or directs the snapshot and performs or directs the copying to the quick recovery volume. Then stating that the appropriate entries (components) are made into the snapshot table (database) for the given client and volumes involved. 0034, a primary data set (database) generally denotes a volume (component), application, or other data being actively used by of a client computer. 0034, volume generally an area of storage (e.g. storage volume)]

“Select a component of said plurality of components;” [0019, selects a volume.]

“Select a data management resource of a plurality of data management resources using an attribute of said component; and” [0037, Once the volume is selected it is removed from the pool of available volumes (plurality of data management resources). This may be accomplished, for example, by determining the capacity needed for a quick recovery volume, determining the capacity of the available volumes (e.g. characteristics of available volumes, hence attributes of said components), and selecting the volume (selecting data management resource) based on capacity of identified volumes.]

“Generate a point-in-time image of said component usinig said data management resource” [0066, interface for users to browse and recover data such as from snapshot images, quick recovery volumes, primary copies, back up copies, etc., as of a point-in-time]

Claim 29:

Prahlid discloses the following claimed limitations:

“A memory to execute said point-in-time image utility; and” [Prahlad discloses a point-in-time snapshot application run on a computer, Abstract and 0067]

“A processor coupled to said memory to execute said point-in-time image utility.”

[Prahlad discloses a point-in-time snapshot application run on a computer, (Abstract and 0067)]

Claim 30:

Prahlid discloses the following claimed limitations:

“wherein said first node comprises said first storage element and said point-in-time image utility.” [0067, primary dataset is stored on primary disk, primary data volume].

Claim 31:

Prahlid discloses the following claimed limitations:

“a second node communicatively coupled to said first node, wherein said second node comprises a second storage element to store said point-in-time image of said component.” [0069, restoring data can be restored and moved to a second storage region by using a data mover.].

Response to Arguments

8. Applicant's arguments filed 3/2/07 have been fully considered but they are not persuasive.

Applicant's assert the following (lettered)

A. That the mere statement that a dbms can use a logical volume neither teaches nor suggests that a logical volume is a component of a database.

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In response, the examiner respectfully disagrees with Applicant's assertions. The mere fact that it is able to / can do something should be sufficient enough to prove that it is able to "suggest". Hence, because Prahlad discloses "sophisticated software, such as database management systems, may use special file system features or even raw logical volumes, and employ measures to protect the consistency of data and metadata" It suggests that volumes can be components of a database because a DBMS is able to utilize the volume. As to applicant's analogy, of "just as a statement of a car can use a road would not teach or suggest that a road is a component of a car". That appears to be an incorrect analogy, as a road is never connected to a car. Whereas a tire can be connected to a car, just as a volume can be connected to a database. If it is connected it can be construed to be a component. Accordingly, applicant's assertions directed towards a logical volume is not a component of a database is unpersuasive.

B. That the new claim is amended to make it abundantly clear that the database "comprises" the components and that the database is stored on a storage volume. That this clearly indicates that the volume upon which a database is stored cannot be a component of the database, since the volume is clearly not included within the database. This is emphasized in claim 1, the volume stores the database. Cited portions of Prahlid do not teach or suggest a database that is stored on a volume and that comprises a plurality of components, the cited portions of prahlid clearly neither teach nor suggest claim 1.

In response, the mere fact that the claim now states "discovering a plurality of components, wherein a database comprises the plurality of components, and wherein the database is a

storage volume” does not necessarily distinguish anything. If a database utilizes a volume, that volume is also a part of the database, and hence is also a component of that database (e.g. what makes up that database.).

C. Applicant further notes that Prahliid does not teach discovering “a plurality of components of a database” because the raw logical volumes are not database components. The reference neither attempts nor expresses any desire to interact with individual database components. Thus, the reference clearly does not teach or suggest the claimed “a plurality of components of a database”.

In response, the examiner respectfully disagrees with applicant’s assertions. 0062, states that it identifies the volumes involved. Hence, it discovers (identifies) the components (volume). please see above, as raw logical volumes can be construed to be database components.

D. That Prahliid does not teach or suggest selecting a data management resource using an attribute of said component” and “generating a point-in-time image of said component using said data management resource” because discovering components of a database is not taught by Prahliid.

In response please see above, A-C, as discovering components of a database is taught by Prahliid.

E. The cited portions of Prahlad also fail to teach or suggest anything about attributes of database components, nor do the cited portions of Prahlid teach or suggest anything about attributes of database components and using those attributes to select data management resources.

In response, it appears the assertion is relying upon that the same reason of discovering components of a database is not taught or suggested in Prahlid. If that is so, please see above. Otherwise, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In summary, Applicant's claimed limitation "discovering components of a database, wherein a database comprises the plurality of components and wherein the database is stored on storage volume" does not limit the claim to clearly indicate that the volume upon which a database is stored cannot be a component of the database. This is because if a database utilizes a volume, that volume is also a part of the database, and hence is also a component of that database (e.g. what makes up that database.). There is nothing limiting that a volume cannot be a component of a database in the claim. The claim merely adds the fact that the database is stored on some volume. According to the limitation: "discovering a plurality of components" (identifying volume involved (0062)) ", wherein a database comprises the plurality of components" (0034, a primary data set generally denotes a volume, application, or other data being actively used by of

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a client computer)", "and wherein the database is stored on a storage volume" (a volume is generally an area of storage on a data storage device (storage)). Accordingly, the cited limitation is suggested. And therefore the claims are broad enough to be Prahliid anticipated by the recited claim.

Conclusion

9. The prior art made of record listed on PTO-892 and not relied, if any, upon is considered pertinent to applicant's disclosure.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Pham whose telephone number is (571)272-3924. The examiner can normally be reached on Monday - Friday 9am - 5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Pham
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Examiner M.P.

Cam Y. Truong
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